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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,827	12/28/2000	Jeffrey W. Marsh	TI-29655	8642

7590 09/23/2002

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EXAMINER

PITTMAN, ZIDIA T

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 09/23/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/750,827	Applicant(s) MARSH ET AL.	
	Examiner Zidia Pittman	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 9-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama et al (USPN 5,324,012) in view of Jacobson et al (USPN 6,085,962).

Aoyama et al teaches a holding apparatus for holding an article such as a semiconductor wafer. A holder which cleanly holds an article such as a semiconductor wafer and which is high in rigidity, light in weight, high in dimensional stability and excellent in dust resistance. The wafer holder includes a vacuum holding surface formed with a plurality of concentric or helical annular projections and annular vacuum holding grooves which are arranged at a given pitch. A plurality of vacuum holes for vacuum holding purposes are formed in the respective annular grooves so as to be arranged radially and each of the vacuum holes is subjected to pressure reduction by a vacuum source through the interior of the holder, thereby correcting the flatness of a wafer to conform with the upper surfaces of the annular projections. Contact means are made of a sintered ceramic material including a covalent bond-type conductive material, and having sufficient conductivity to electrically ground the article. (abstract; column 5 lines 43-54; column 6 lines 1-23; claims 1 and 11)

Aoyama et al does not a conductive resilient member supported by said rigid pedestal and electrically connected to said electrical ground, said conductive resilient member operable to engage electrical contacts on said component electrically connecting said contacts with said electrical ground, said conductive resilient member

further comprising a first face operable to engage said electrical contacts, said first face extending beyond adjacent portions of said rigid pedestal, said conductive resilient member operable to deform as said component is pressed against said conductive resilient member such that said component contacts said adjacent portions of said adjacent portions of said rigid pedestal, and wherein said component is grounded through said conductive resilient member and said pedestal.

Jacobson et al teaches a wire bond monitoring system for layered packages. A laminate package trace makes electrical contact with the back side of the die and communicates through a via with the machine. The machine, in turn, is connected to the ground. The via is effectively a hole through the laminate package, which is metal lined so that an electrical connection is made between the metal trace and the ground through the machine. While the opening may not be of considerable size and access to it may require weaving through the solder mask past the die, a connection can be made by the wire bonder clamp to the laminate package trace using a flexible contact. In addition, even if the surface to be contacted is irregular, a good contact can be made using the flexible contact. Through the use of the flexible connection, contact may be made in a variety of inaccessible positions to facilitate continuity testing in layered packages. A conductive resilient material may also be used as a contact. The material may be a Z-axis foam or rubber which is conductive. The material may be a T-shaped so that it may be retained in the clamp while extending downwardly to flexibly and resiliently contact the trace. (abstract; Figures 1-4; column 2 lines 46-49 and 62-67; column 3 lines 24-32 and 56-61)

With respect to the limitations requiring 'for restraining and electrically grounding a component during a wire bonding process', 'operable to engage electrical contacts on said component electrically connecting said contacts with said electrical ground', 'operable to hold said component against said rigid pedestal', 'operable to engage said electrical contacts', and 'operable to deform as said component is pressed against said conductive resilient member such that said component contacts said adjacent portions of said rigid pedestal', it is the examiner's position that these limitations are intended use, and that the disclosure of Aoyama et al in view of Jacobson et al would be capable of performing these limitations.

At the time of the invention, it would have been obvious to modify the teachings of Aoyama et al with the teachings of Jacobson et al in order to improve the electrical conductivity and contacts of the holding apparatus.

Claims 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama et al in view of Jacobson et al as applied to claim 1 above, and further in view of Mine et al (USPN 6,039,831).

Aoyama et al in view of Jacobson et al teaches all the limitations of claims 6 and 7 as stated above for claim 1 above, except for teaching wherein said conductive resilient member is a silicone elastomer or a silicone elastomer impregnated with a metal.

Mine et al teaches electrically conductive silicone elastomer compositions with metal in order to provide a material with outstanding electrical conductivity. (column 16 line 62 – column 17 line 5)

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At the time of the invention, it would have been obvious to one having ordinary skill in the art to modify the teachings of Aoyama et al in view of Jacobson et al with the teachings of Mine et al in order to provide a material with outstanding electrical conductivity.

Allowable Subject Matter

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach or suggest a holder wherein the conductive resilient member is a Ag-Cu filled silicone elastomer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pankove (USPN A6,169,330), Duescher (USPN 6,048,254), Yagi et al (USPN 5,686,353), Wilson (USPN 5,661,089), Diffenderfer et al (USPN 5,639,694), Brooks (USPN 5,496,775), and Bergman (USPN 4,143,868) are cited as of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zidia Pittman whose telephone number is (703) 305-1248. The examiner can normally be reached on Monday – Thursday and alternate Fridays from 8:30 am to 6:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn, can be reached at (703) 308-3318. The official fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718. The unofficial fax number for art unit 1725 is (703) 305-6078.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

37P
9/18/02



TOM DUNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700